

This listing of claims will replace all prior versions and listings of claims in this application:

a) Listing of Claims

What is claimed is:

1. (Previously Amended) A sample carrier for a confocal microscope, comprising:

a first coverslip and a second coverslip immovably secured in a frame and forming a cavity between them, the second coverslip having a mirror-coated zone and a sample region which is defined on the second coverslip;

a medium uniformly filling in the cavity, the medium having approximately the same refractive index as the first and the second coverslips.
2. (Previously Amended) The sample carrier as defined in Claim 1, wherein the substrate of the first and the second coverslips is made of anisotropic or isotropic materials of approximately the same refractive index and that are transparent to the wavelengths of illumination light used in the microscope.
3. (Previously Amended) The sample carrier as defined in Claims 1, wherein the first and the second coverslips are made of quartz glass; and the medium uniformly filling the cavity is glycerol.
4. (Previously Amended) The sample carrier as defined in Claim 3, wherein the distance between the first and the second coverslips is no greater than 50 μm .
5. (Previously Amended) The sample carrier as defined in Claim 1, wherein the mirror-coated zone on the second coverslip is made from a material that acts reflectively for light in a wavelength region between $\lambda = 300 \text{ nm} - 1300 \text{ nm}$.

6. (Previously Amended) The sample carrier as defined in Claim 5, wherein the material of the mirror-coated zone is aluminum or silver with a protective layer, or gold.
7. (Previously Amended) The sample carrier as defined in Claim 5, wherein the mirror-coated zone is made of a dielectric mirror coating.
8. (Previously Amended) The sample carrier as defined in Claim 1, wherein the mirror-coated zone is a circular ring surrounding the sample region.
9. (Previously Amended) The sample carrier as defined in Claim 1, wherein at least the first or the second coverslips is secured to the frame using a special adhesive.
10. (Previously Amended) The sample carrier as defined in Claim 1, wherein the first and the second coverslips are in the shape of a circle.
11. (Previously Amended) The sample carrier as defined in Claim 1, wherein the first and the second coverslips possess the shape of a polygon with sides of identical length.
12. (Previously Amended) The sample carrier as defined in Claim 1, wherein the first and the second coverslips are in the shape of a rectangle.
13. (Previously Amended) The sample carrier as defined in Claim 1, wherein the confocal microscope is an interferometric fluorescence microscope, such as 4-pi microscope, a standing wave field microscope, I^2M , I^3M , and I^5M microscope, and a theta microscope.

Claims 14-19 - Cancelled